Forestland Interpretations

Forestland interpretations are important to good management. The management of trees begins with an understanding of the soil where they grow or are to be grown. Some soils are very suitable for growing wood crops; others barely support tree cover. Different tree species may vary in production on the same soil.

Forestland interpretations should be used to assist land users in planning, installing, and maintaining forestland management systems.

Forest Management and Productivity

The Forestland Management and Productivity tables presents information about suitable for producing timber for each soil map unit. Management concerns, which include hand planting, mechanical planting, use of harvesting equipment, mechanical site preparation (surface), roads (natural surface), erosion on roads and trails, off-road/trail erosion, soil rutting, log landings, seedling survival, are listed by ratings of:

- Not Limited (0.00)
- Slightly Limited (0.01 to 0.30)
- Moderately Limited (0.31 to 0.60)
- Limited (0.61 to 0.99)
- Very Limited (1.00)

Information on potential productivity includes plant competition, common trees, site index, productivity class, and trees to plant.

Management Concerns

PLANT COMPETITION - A rating of slight indicates little or no competition from other plants; moderate indicates that plant competition is expected to hinder the development of the fully stocked stand of desirable trees; and severe means that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed for the control of undesirable plants.

POTENTIAL PRODUCTIVITY - This is discussed under the ordination class symbol.

COMMON TREES - Trees that generally occur on the soil are listed regardless of economic importance.

SITE INDEX AND PRODUCTIVITY CLASS - These are discussed under ordination class symbol.

TREES TO PLANT - Trees that are suitable for commercial wood production and that are adapted to the soil.

HAND PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

MECHANICAL PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

USE OF HARVEST EQUIPMENT – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, and ponding. Ratings indicate the suitability for operating harvest equipment for off –road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

MECHANICAL SITE PREPARATION (SURFACE) – ratings are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, a water table, and ponding. The part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

ROADS (NATURAL SURFACE) – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads on which trucks transport logs and other wood products from the site.

EROSION (ROAD/TRAIL) – ratings are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails.

EROSION (OFF-ROAD/OFF-TRAIL) – ratings are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

SOIL RUTTING – ratings are based on a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ratings indicate the hazard or risk of ruts in the uppermost soil surface layers by operation of forest equipment. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with rutting.

LOG LANDINGS – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at the forest site to serve as a log landing and allows the efficient and effective use of equipment for the temporary storage and handling of logs.

SEEDLING SURVIVAL – ratings are based on flooding, ponding, a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

See the National Forestry Manual, Subpart B for criteria used in rating management concerns.

This subsection includes:

- **(a) Forest Management (one or two tables)**

Table 7.--Forest Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available.)

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
70030:				
Noark	black oak	65	43	black oak, northern red oak, white oak
	eastern redcedar	40	43	
	northern red oak	66	43	
	shortleaf pine	60	86	
	southern red oak	66	43	
	white oak	58	43	
Clarksville	black oak	62	43	black oak, northern red oak, shortleaf pine, white oak
	northern red oak	61	43	
	shortleaf pine	61	86	
	white oak	55	43	
70031:				
Hailey	black oak	---	---	black oak, northern red oak, shortleaf pine, white oak
	hickory	---	---	
	northern red oak	65	43	
	post oak	---	---	
	white oak	62	43	
Rueter	black oak	61	43	black oak, shortleaf pine, white oak
	northern red oak	61	43	
	white oak	58	43	
70032:				
Tonti	black oak	60	43	black oak, shortleaf pine
	post oak	45	29	
	shortleaf pine	54	86	
70033:				
Moko	eastern redcedar	30	29	eastern redcedar
Rock outcrop.				
70034:				
Moko	eastern redcedar	30	29	eastern redcedar
Blueye	blackjack oak	---	---	eastern redcedar
	eastern redcedar	35	29	
	post oak	---	---	
Rock outcrop.				
70035, 70036:				
Sonsac	black oak	54	43	black oak, eastern redcedar, shortleaf pine
	post oak	45	29	
	white oak	42	29	
Gobbler	black oak	58	43	black oak, shortleaf pine
	northern red oak	---	---	
	white oak	57	43	
70037:				
Sonsac	black oak	54	43	black oak, eastern redcedar, shortleaf pine
	post oak	45	29	
	white oak	42	29	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
70037:				
Rueter	black oak	74	57	black oak, white oak
	northern red oak	---	---	
	white oak	75	57	
70038:				
Moko	eastern redcedar	30	29	eastern redcedar
Rock outcrop.				
70050:				
Rueter	black oak	74	57	black oak, white oak
	northern red oak	---	---	
	post oak	---	---	
	white oak	75	57	
Goss	black oak	57	43	black oak, shortleaf pine, white oak
	blackjack oak	---	---	
	post oak	50	43	
	shortleaf pine	57	86	
	white oak	55	43	
70051:				
Hailey	black oak	---	---	black oak, northern red oak, shortleaf pine, white oak
	hickory	---	---	
	northern red oak	65	43	
	white oak	62	43	
Rueter	black oak	74	56	black oak, white oak
	northern red oak	---	---	
	white oak	75	56	
71252:				
Britwater	eastern redcedar	64	57	northern red oak, shortleaf pine, white oak
	northern red oak	70	57	
	shortleaf pine	70	114	
73070:				
Sowcoon	black oak	65	43	black oak, northern red oak, shortleaf pine
	northern red oak	70	57	
	shortleaf pine	---	---	
	white oak	66	43	
73113:				
Scholten	black oak	45	29	black oak, eastern redcedar, shortleaf pine
	hickory	---	---	
	post oak	45	29	
73114:				
Captina	black oak	59	43	black oak, shortleaf pine
	blackjack oak	---	---	
	post oak	51	43	
	shortleaf pine	60	86	
73115:				
Horneybuck	black oak	57	43	black oak, shortleaf pine, white oak
	post oak	---	---	
	white oak	55	43	
Tonti	black oak	60	43	black oak, shortleaf pine
	post oak	45	29	
	shortleaf pine	54	86	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
73116:				
Pomme	northern red oak	65	43	black walnut,
	white oak	65	43	shortleaf pine,
				white oak
73117:				
Clarksville	black oak	62	43	black oak, northern
	northern red oak	61	43	red oak, shortleaf
	shortleaf pine	61	86	pine, white oak
	white oak	55	43	
Scholten	black oak	45	29	black oak,
	hickory	---	---	shortleaf pine,
	post oak	45	29	white oak
Hailey	black oak	---	---	black oak, northern
	hickory	---	---	red oak, shortleaf
	northern red oak	65	43	pine, white oak
	post oak	---	---	
	white oak	62	43	
73118:				
Rueter	black oak	74	56	black oak, white
	post oak	---	---	oak
	white oak	75	56	
Goss	black oak	57	43	black oak,
	blackjack oak	---	---	shortleaf pine,
	post oak	50	43	white oak
	shortleaf pine	57	86	
	white oak	55	43	
73119:				
Rueter	black oak	74	56	black oak, white
	post oak	---	---	oak
	white oak	75	56	
Hailey	black oak	---	---	black oak, northern
	hickory	---	---	red oak, shortleaf
	northern red oak	65	43	pine, white oak
	post oak	---	---	
	white oak	62	43	
73120:				
Rueter	black oak	74	57	black oak, white
	northern red oak	---	---	oak
	post oak	---	---	
	white oak	75	57	
Gasconade	blackjack oak	---	---	eastern redcedar
	chinkapin oak	41	29	
	eastern redcedar	29	29	
	post oak	---	---	
Rock outcrop.				
73121:				
Scholten	black oak	45	29	black oak,
	hickory	---	---	shortleaf pine,
	post oak	45	29	white oak

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
73121:				
Tonti	black oak	60	43	black oak,
	post oak	45	29	shortleaf pine
	shortleaf pine	54	86	
73122:				
Gasconade	blackjack oak	---	---	eastern redcedar
	chinkapin oak	41	29	
	eastern redcedar	29	29	
	post oak	---	---	
Rock outcrop.				
73123:				
Mano	black oak	69	43	black oak, northern
	northern red oak	---	---	red oak, white oak
	white oak	66	43	
Ocie	black oak	60	43	black oak,
	northern red oak	55	43	shortleaf pine
	white oak	57	43	
73124:				
Alred	black oak	69	43	black oak,
	shortleaf pine	65	86	shortleaf pine,
	white oak	60	29	white oak
Ocie	black oak	60	43	black oak,
	northern red oak	55	43	shortleaf pine
	white oak	57	43	
73127:				
Gobbler	black oak	58	43	black oak,
	northern red oak	---	---	shortleaf pine
	white oak	57	43	
Sonsac	black oak	54	29	black oak, eastern
	eastern redcedar	40	43	redcedar,
	post oak	45	29	shortleaf pine
	white oak	42	29	
73128:				
Gobbler	black oak	58	43	black oak, northern
	northern red oak	---	---	red oak, shortleaf
	white oak	57	43	pine
Sonsac	black oak	54	29	black oak, eastern
	eastern redcedar	40	43	redcedar,
	post oak	45	29	shortleaf pine
	white oak	42	29	
73129, 73130, 73131, 73132:				
Gasconade	blackjack oak	---	---	eastern redcedar
	chinkapin oak	41	29	
	eastern redcedar	29	29	
	post oak	---	---	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber (cu ft/ac)	
73133:				
Alred	black oak	69	43	black oak,
	shortleaf pine	65	86	shortleaf pine,
	white oak	60	43	white oak
Ocie	black oak	60	43	---
	northern red oak	55	43	
	white oak	57	43	
73134:				
Alred	northern red oak	65	43	northern red oak,
	shortleaf pine	65	86	shortleaf pine,
	white oak	60	43	white oak
Ocie	black oak	60	43	black oak,
	northern red oak	55	43	shortleaf pine
	white oak	57	43	
Sonsac	black oak	54	43	black oak, eastern
	post oak	45	29	redcedar,
	white oak	42	29	shortleaf pine
74638, 74639:				
Waben	black oak	71	57	black oak, northern
	northern red oak	66	57	red oak, shortleaf
	shortleaf pine	70	114	pine, white oak
	white oak	66	43	
74640:				
Hootentown	American sycamore	---	---	black walnut,
	black walnut	---	---	northern red oak,
	common hackberry	---	---	white ash, white
	green ash	70	57	oak
	red maple	---	---	
	white oak	---	---	
75401:				
Horsecreek	American elm	---	---	black walnut,
	American sycamore	---	---	eastern
	Shumard's oak	70	57	cottonwood, white
	black walnut	---	---	ash
	common hackberry	---	---	
	green ash	---	---	
	pin oak	70	57	
	red maple	---	---	
Jamesfin	American sycamore	---	---	black walnut, green
	black walnut	---	---	ash, pecan
	cottonwood	---	---	
	green ash	85	57	
	pecan	---	---	
	river birch	---	---	
75402:				
Pinerun	American sycamore	---	---	black oak, black
	black oak	60	43	walnut, green ash,
	black walnut	---	---	northern red oak
	green ash	---	---	

Table 7.--Forest Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
75403:				
Cedargap	American sycamore	---	---	black oak, shortleaf pine
	black oak	66	43	
	chinkapin oak	---	---	
	northern red oak	58	43	
Woolly	American sycamore	---	0	American sycamore, black walnut, shortleaf pine
	black oak	---	0	
	black walnut	---	0	
	white oak	60	43	
75404:				
Pinerun	American sycamore	90	114	black oak, black walnut, green ash, northern red oak
	black oak	60	43	
	black walnut	---	---	
	green ash	---	---	
75405:				
Pinerun	American sycamore	90	114	black oak, black walnut, green ash, northern red oak
	black oak	60	43	
	black walnut	---	---	
	green ash	---	---	
Waben	black oak	71	57	black oak, black walnut, northern red oak, shortleaf pine, white oak
	northern red oak	66	57	
	shortleaf pine	70	114	
	white oak	66	57	